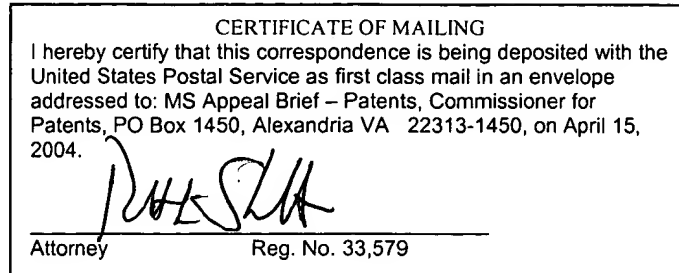


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Peter T. Dietz
Serial No. : 09/591,584
Filed : June 9, 2000
Title : Glazing Element and Laminate for Use in the Same
Attorney Docket : 55434US002
Examiner : H. Vo
Art Unit : 1771

Mail Stop Appeal Brief--Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:



APPEAL BRIEF

1. *Real Party in Interest*

The Real Party in Interest in the present Appeal is 3M Innovative Properties Company, the assignee, as evidenced by the assignment set forth at Reel 10886, Frame 267-68.

2. *Related Appeals and Interferences*

There are no related appeals or interferences.

3. *Status of the Claims*

Claims 1-11, 13-15, 17-22, 31-33, 35, 38 and 39 stand finally rejected as noted in the final Office Action dated October 27, 2003. Claims 28 and 29 stand objected to as being dependent upon a rejected base claim, but as otherwise being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The final Office Action indicates that claims 16, 23, 36, and 37 recite allowable subject matter and would be allowable if rewritten to overcome a § 112 rejection. However, a § 112 rejection is not set out in the October 27th final Office Action. The Advisory Action dated February 17, 2004 corrects this error by indicating that a § 112 rejection was not made against claims 16, 23, 36 and 37 in the October 27th final Office Action. The Advisory Action further indicates that

claims 16, 23, 36 and 37 recite allowable subject matter. Claims 12, 24-27, 30, 34 and 40 stand allowed.

4. *Status of Amendments*

No amendments to the claims have been filed subsequent to the October 27, 2003 Final Rejection. A REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION was filed on January 23, 2004. However, no amendments to the claims were presented in that paper.

5. *Summary of the Invention*

The invention is directed to a laminate attached to window glass to provide a glazing element which has reduced spall and lacerative consequences¹ on impact fracture of the window glass. The laminate is easily installed under ambient conditions with an inexpensive roller and, once installed, provides superior anti-spall and anti-lacerative properties. Referring to Figs. 1 and 2 and page 5, lines 15-31 of the present application, example embodiments of laminates attached to window glass in accordance with the present invention comprise:

- (a) a first lamina (plastic film 13 in Fig. 1; plastic film 22 in Fig. 2) comprised of visible light transmissive flexible nonadhesive polymeric material having a first major surface and an opposite second major surface;
- (b) a scratch-resistant layer (layer 12 in Fig. 1; layer 21 in Fig. 2) over the first major surface to provide an exposed surface to the laminate;
- (c) at least one additional lamina (plastic film 15 in Fig. 1; plastic films 24, 26 in Fig. 2) comprised of visible light transmissive flexible nonadhesive polymeric material;
- (d) a sufficient number of layers (adhesive layer 14 in Fig. 1; adhesive layers 23, 25 in Fig. 2) of in situ visible light transmissive pressure sensitive adhesive layers to bond the laminae together with the scratch-resistant layer exposed; and

¹ It is generally conventional to utilize unlaminated glazing elements for fabricating some automobile windows such as vehicle sidelights. While such windows are typically tempered so that on impact they fracture in small irregular pieces without producing knife-like shards, they still provide a hazard to the occupants of a motor vehicle. The impact fracture of such automotive glazing typically produces what is called "spall." Spall is the shower of glass splinters that typically results from the impact fracturing of automotive glazing. Such glass splinters could have a lacerative effect on the occupants of the motor vehicle and on any air bag that may have been inflated as a result of the automobile accident.

(e) a layer of in situ visible light transmissive ambient temperature attachable pressure sensitive adhesive (pressure sensitive adhesive 16 in Fig. 1; pressure sensitive adhesive 27 in Fig. 2) to bond the laminate to window glass (glass sheet 17 in Fig. 1; window glass is not shown in Fig. 2), wherein the total thickness of the laminate exceeds about 5 mils and the laminate exhibits a light transmittance.

The preferred laminates of the invention include pressure sensitive adhesive compositions having a shear storage modulus in the range of about 0.20 to 0.50 MPa when measured at 22°C. The preferred shear storage modulus is about 0.3 MPa (see page 10, lines 1-13 of the present application).

A preferred laminate of the invention comprises the following components:

- (a) a first biaxially oriented polyester film having a thickness of not more than about 5 mils (0.13 mm) (see page 4, lines 10 and 11 and page 8, lines 8-16 and 29-30 of the present specification);
- (b) a scratch-resistant layer such as a cured ceramer (see page 6, line 8 through page 7, line 23 of the present application);
- (c) a first pressure sensitive adhesive layer (see page 9, line 22 through page 10, line 13 of the present application);
- (d) a second biaxially oriented polyester film having a thickness of not more than about 5 mils (0.13 mm);
- (e) a second pressure sensitive adhesive layer;
- (f) a third biaxially oriented polyester film having a thickness of not more than about 5 mils (0.13 mm); and
- (g) a third ambient-temperature-attachable pressure sensitive adhesive layer (see page 10, lines 20-24 of the present application).

Preferably the total laminate thickness does not exceed about 20 mils (0.5 mm), more preferably does not exceed about 15 mils (0.38 mm) and most preferably does not exceed about 12 mils (0.3 mm).

6. *Issues*

1. Is the Examiner's rejection of claims 1-5, 7-9, 11, 13, 17-21, 31-33, 38 and 39 under 35 U.S.C. § 103(a) based upon U.S. Patent No. 5,118,540 to Hutchison in view of U.S. Patent No. 4,157,417 to Murphy well-founded?

2. Is the Examiner's rejection of claim 10 under 35 U.S.C. § 103(a) based on the '540 patent and the '417 patent in view of U.S. Patent No. 6,033,785 to Tanaka et al. well-founded?

3. Is the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a) based on the '540 patent and the '417 patent in view of U.S. Patent No. 5,677,050 to Bilkadi et al. well-founded?

4. Is the Examiner's rejection of claims 14, 15, 22 and 35 under 35 U.S.C. § 103(a) based on the '540 patent and the '417 patent in view of U.S. Patent No. 6,013,722 to Yang et al. well-founded?

7. *Grouping of the Claims*

The rejected claims do not stand or fall together as a whole. For purposes of this appeal, claims 1-5, 9, 31-33, 38 and 39 stand together; claim 6 stands alone; claims 7, 13, and 17-21 stand together; claims 8 and 11 stand together; claim 10 stands alone; and claims 14 and 35 stand together; and claims 15 and 22 stand together.

8. *Argument*

Claims 1-5, 7-9, 11, 13, 17-21, 31-33, 38 and 39 stand rejected under § 103(a) as being unpatentable over U.S. Patent No. 5,118,540 to Hutchison in view of U.S. Patent No. 4,157,417 to Murphy; claim 10 stands rejected under § 103(a) as being unpatentable over the '540 patent and the '417 patent in view of U.S. Patent No. 6,033,785 to Tanaka et al.; claim 6 stands rejected under § 103 as being unpatentable over the '540 patent and the '417 patent in view of U.S. Patent No. 5,677,050 to Bilkadi et al; and claims 14, 15, 22 and 35 stand rejected under § 103(a) as being unpatentable over the '540 patent and the '417 patent in view of U.S. Patent No. 6,013,722 to Yang et al. Claims 12, 16, 23, 24-27, 28, 29, 30, 34, 36, 37 and 40 recite allowable subject matter.

HUTCHISON AND MURPHY AND
CLAIMS 1-5, 7-9, 11, 13, 17-21, 31-33, 38 AND 39

The Final Office Action states in lines 10-17 of paragraph 2. on pages 2 and 3:

Hutchison teaches the reflective film suitable for solar energy applications (abstract). Hutchison does not specifically disclose the reflective film attached to window glass. Murphy, however, teaches the reflective film having been attached to window glass to reduce heat, glare of solar radiation (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the reflective film in combination with window glass motivated by the desire to reduce heat, glare of solar radiation.

The Advisory Action dated February 17, 2004, states:

Applicant argues that since the Hutchison film functions to reflect visible light while the Murphy film functions to transmit visible light, one skilled in the art would not have been motivated to combine their teaching[s] as proposed by the Examiner. The arguments are not found persuasive. Hutchison discloses that the laminate comprises a layer of silver having a thickness of 1 to 1.5 microns. The thin layer of silver indicates that the laminate is not totally reflective to visible light as argued by Applicant. A silver deposition in such an amount still allows some degree of visible light transmission. Likewise the Murphy film functions to transmit light [--] visible light too! Accordingly, the art rejections are sustained.

This rejection is respectfully traversed for the following reasons.

Hutchison teaches that his reflective film 100 in combination with a reflector element forms a parabolic trough solar energy concentrator, see column 7, lines 9-12. Hutchison further teaches that the “reflector element 210 may comprise support structure 212, which may be either solid or framework, holding a surface 214 configured in a trough like shape,” see column 7, lines 20-23. The ‘540 patent also teaches “the flexible reflective film may be incorporated into other types of lighting reflectors and solar energy applications, e.g., parabolic solar dish and heliostat applications,” see column 7, lines 41-44. However, nowhere does Hutchison disclose, teach or suggest using his film in combination with window glass. Murphy discloses “transparent-reflective metallized solar control compositions and films for application to window glass to reduce heat, glare, etc., of solar radiation” (see the Abstract of the ‘417 patent.) Murphy further

states in column 5, lines 25-27, “[t]here is a marked reduction in transmission of ultraviolet rays, infrared light, and reduction in glare while retaining good transparency to visible light.”

It is submitted that there is no motivation or suggestion in either the ‘540 patent or the ‘417 patent to combine the teachings of Hutchison and Murphy in the manner espoused in the final Office Action and the Advisory Action. Hutchison teaches providing a reflective film for use in a solar energy concentrator 200, see column 7, lines 9 and 10, and “other types of lighting reflectors ***,” see column 7, lines 41-45. Hutchison teaches that “when the reflector [element 210 of the concentrator 200] is oriented toward the sun, solar radiation impinging on any part of the surface of the flexible film 100 is reflected to converge at the line of focus of that parabolic surface,” see column 7, lines 24-27. Hutchison further teaches that “to be efficient[,] a reflective film must be highly specularly reflective to visible, ultraviolet, and/or near infra-red light between about 300-2,500 nanometers,” see column 1, lines 19-22 of the ‘540 patent. It is noted that the ‘540 patent teaches in column 2, lines 15-18, “a thin layer of silver *** is characterized by the presence of a spectral ‘window’ through which ultraviolet light in the 300-400 nanometer region readily passes.” It is also noted that no mention is made in the ‘540 patent that a thin layer of silver is characterized by the presence of a spectral window through which visible light passes.

Murphy, in contrast, discloses a film having “a marked reduction in transmission of ultraviolet rays, infrared light and reduction in glare while retaining good transparency to visible light,” see column 5, lines 25-28. Hence, the Hutchison film functions to reflect visible light in addition to ultraviolet and near infra-red light while the Murphy film functions to transmit visible light while reducing ultraviolet rays, infrared light and glare. Because the two films have such diametrically opposed functions, it is submitted that one skilled in the art would not have been motivated to combine their teaches as proposed in the Office Action. Nor is there any teaching or suggestion to one skilled in the art to secure the Hutchison film to a window glass in order to allow the very small amount of infrared light passing through the Hutchison film to also pass through the window glass while reflecting the visible light away from the window glass. In point of fact, Murphy teaches away from such a combination as the Murphy film functions in an opposite manner, namely, to prevent infrared light from passing through the window glass while allowing visible light to pass therethrough. It is very clear that the only teaching for providing a

laminate/window glass combination, as recited in claims 1 and 9, comes from the applicant's own disclosure, which cannot be used against him. Accordingly, the Board is respectfully requested to reverse the Examiner's final rejection of claims 1-5, 7-9, 11, 13, 17-21, 31-33, 38 and 39.

CLAIMS 7, 13, AND 17-21

It is submitted that claims 7, 13 and 17-21 recite additional limitations which further distinguish them patentably from the applied prior art. It is noted that Hutchison generally teaches providing an acrylic pressure sensitive adhesive to secure laminate layers together, see, for example, column 7, lines 66-68 of the '540 patent. However, nowhere does Hutchison disclose, teach or suggest that one of his laminates is capable of passing one or more of the following ANSI Z-26 tests: 5.04 – Two Hour Boiling Water; and 5.13 – Thirty Foot Ball Drop. It is believed that use of any acrylic pressure sensitive adhesive to bond together film layers to form a laminate will not inherently result in the laminate passing these tests. For example, if an acrylic pressure sensitive adhesive creates a bond that is too strong, a laminate may tear thereby failing the Thirty Foot Ball Drop test. Conversely, if the adhesive bond is too weak, the boiling water test will not be passed. Murphy also fails to disclose a laminate having polymeric layers bonded together via a pressure sensitive adhesive capable of meeting the tests set out in claims 7, 13 and 17-21.

CLAIMS 8 AND 11

It is submitted that claims 8 and 11 recite additional limitations which further distinguish them patentably from the applied prior art. Again, it is noted that Hutchison generally teaches providing an acrylic pressure sensitive adhesive to secure laminate layers together. However, nowhere does Hutchison disclose, teach or suggest that this adhesive possesses a shear storage modulus falling within the limitations recited in claims 8 and 11. It is believed that not all acrylic pressure sensitive adhesives will inherently possess a shear storage modulus meeting the limitations set out in claims 8 and 11. If the shear storage modulus is too great, then a laminate may tear thereby failing the Thirty Foot Ball Drop test. Conversely, if the storage modulus is too low, the boiling water test may not be passed. Murphy also fails to disclose a laminate including

a pressure sensitive adhesive having a shear storage modulus meeting the limitations set out in claims 8 and 11.

HUTCHISON, MURPHY AND BILKADI ET AL.

AND CLAIM 6

The Bilkadi et al. patent has been applied in combination with the Hutchison and Murphy patents in the rejection of claim 6. Bilkadi et al. teach a hard coating comprising a cured ceramer. While the Bilkadi et al. patent does disclose a retroreflective sheeting including a cured ceramer layer, nowhere does it suggest forming a laminate comprising at least two flexible nonadhesive polymeric material laminae and wherein the laminate has a thickness of at least about 5 mils, exhibits a light transmittance and is attached to window glass. Nor does the Bilkadi et al. patent provide any motivation or suggestion for combining the teachings of Hutchison and Murphy. Accordingly, Hutchison, Murphy and Bilkadi et al., whether taken singly or in combination, do not disclose teach or suggest the subject matter set out in claim 6. Accordingly, the Board is respectfully requested to reverse the Examiner's final rejection of claim 6.

HUTCHISON, MURPHY AND TANAKA ET AL.

AND CLAIM 10

In the rejection of claim 10, Tanaka et al. was applied in combination with Hutchison and Murphy for providing a teaching of tempered glass. However, the Tanaka et al. patent does not correct for the deficiencies of the combination of Hutchison and Murphy. Accordingly, for the reasons discussed above with regard to the rejection of Hutchison in view of Murphy, it is submitted that Hutchison, Murphy and Tanaka et al., whether taken singly or in combination, do not disclose, teach or suggest the subject matter of claim 10. Accordingly, the Board is respectfully requested to reverse the Examiner's final rejection of claim 10.

HUTCHISON, MURPHY AND YANG ET AL.

AND CLAIMS 14, 15, 22 AND 35

Yang et al. has been applied in combination with Hutchison and Murphy with regard to claims 14, 15, 22 and 35. Yang et al. do not provide any motivation or suggestion for combining the teachings of Hutchison and Murphy in the manner espoused in the Office Action with regard to independent claims 1 and 9, from which claims 14, 15, 22 and 35 depend. Accordingly, for the reasons discussed above, it is submitted that Hutchison, Murphy, and Yang et al., whether taken singly or in combination, do not disclose, teach or suggest the subject matter set out in claims 14, 15, 22 and 35.

CLAIMS 15 AND 22

It is submitted that claims 15 and 22 recite additional limitations which further distinguish them patentably from the applied prior art. It is noted that a single layer of pressure sensitive adhesive is taught by Yang et al. for bonding a film to a glass slide, see column 7, lines 54-67. However, nowhere does Yang et al. disclose a laminate comprising a first polymeric material lamina bonded to at least one additional polymeric material lamina, wherein the laminate and a window glass have a percent haze less than or equal to about 2.0%.

Accordingly, the Board is respectfully requested to reverse the Examiner's final rejection of claims 14, 15, 22 and 35.

CONCLUSION

It is submitted that claims 1-11, 13-15, 17-22, 31-33, 35, 38 and 39 define patentably over the applied prior art. Accordingly, it is respectfully requested that the Board reverse the Examiner's final rejection of claims 1-11, 13-15, 17-22, 31-33, 35, 38 and 39.

9. *Appendix – The Claims on Appeal*

1. (Previously presented) A laminate attached to window glass to provide a glazing element which has reduced spall and lacerative consequences on impact fracture of the window glass; said laminate comprising:

- (a) a first lamina comprised of visible light transmissive flexible nonadhesive polymeric material having a first major surface and an opposite second major surface;
- (b) a scratch-resistant layer over said first major surface to provide an exposed surface to the laminate;
- (c) at least one additional lamina comprised of visible light transmissive flexible nonadhesive polymeric material;
- (d) a sufficient number of layers of in situ visible light transmissive pressure sensitive adhesive layers to bond said laminae together with the scratch-resistant layer exposed; and
- (e) a layer of in situ visible light transmissive ambient temperature attachable pressure sensitive adhesive to bond said laminate to window glass, wherein the total thickness of the laminate exceeds about 5 mils and the laminate exhibits a light transmittance.

2. (Previously presented) The laminate attached to window glass of claim 1 wherein each of said laminae has a thickness no greater than about 5 mils (0.13 mm).

3. (Previously presented) The laminate attached to window glass of claim 1 wherein each of said laminae is comprised of biaxially oriented polyester film.

4. (Previously presented) The laminate attached to window glass of claim 1 wherein said pressure sensitive adhesive is comprised of acrylic based copolymer.

5. (Previously presented) The laminate attached to window glass of claim 1 further including a third lamina comprised of visible light transmissive flexible non-adhesive polymeric material.

6. (Previously presented) The laminate attached to window glass of claim 1 wherein the scratch-resistant layer comprises a cured ceramer.
7. (Previously presented) The laminate attached to window glass of claim 1 wherein said window glass comprises tempered or laminated window glass, said laminate and window glass define a glazing element which passes the following ANSI Z-26 tests:
 - 5.04 - Two Hour Boiling Water;
 - 5.13 - Thirty Foot (9.14 m) Ball Drop;
 - 5.17 - Resistance to Abrasion;
 - 5.19 - Chemical Resistance; and
 - 5.23 - Flammability.
8. (Previously presented) The laminate attached to window glass of claim 1 wherein said pressure sensitive adhesive layers are comprised of pressure sensitive adhesive having a shear storage modulus measured at 22°C in the range of about 0.20 Mpa to about 0.50 Mpa.
9. (Previously presented) A glazing element which has reduced spall and lacerative consequences on impact fracture, said glazing element comprising:
 - (a) a laminate comprising a first lamina comprised of visible light transmissive flexible polymeric material having a first major surface and an opposite second major surface; a scratch-resistant layer over said first major surface; at least one additional lamina comprised of visible light transmissive flexible nonadhesive polymeric material; a sufficient number of layers of in situ visible light transmissive pressure sensitive adhesive layers to bond said laminae together with the scratch-resistant layer exposed; a layer of in situ visible light transmissive ambient temperature attachable pressure sensitive adhesive to bond said laminate to window glass; wherein the total thickness of the laminate exceeds about 5 mils and the laminate exhibits a light transmittance; and
 - (b) window glass.

10. (Original) The glazing element of claim 9 wherein said window glass is tempered.
11. (Original) The glazing element of claim 9 wherein said pressure sensitive adhesive layers are comprised of pressure sensitive adhesive having a shear storage modulus measured at 22°C in the range of about 0.20 MPa to about 0.50 MPa.
13. (Previously presented) The laminate attached to window glass of claim 1, wherein each of said visible light transmissive pressure sensitive adhesive layers comprises an adhesive sufficient to maintain the laminae together through the ANSI Z-26 test: 5.04 – Two Hour Boiling Water.
14. (Previously presented) The laminate attached to window glass of claim 1, wherein said attachable pressure sensitive adhesive layer comprises an adhesive including a cross linker solution.
15. (Previously presented) The laminate attached to window glass of claim 1, wherein the laminate attached to the window glass has a percent haze less than or equal to about 2.0%.
17. (Previously presented) The laminate attached to window glass of claim 1, wherein the laminate attached to the window glass provides a glazing element which also passes each of the following ANSI Z-26 tests:
 - 5.13 – Thirty Foot Ball (9.14 m) Drop;
 - 5.17 – Resistance to Abrasion;
 - 5.19 – Chemical Resistance; and
 - 5.23 – Flammability.
18. (Previously presented) The laminate attached to window glass of claim 1, wherein each of said visible light transmissive pressure sensitive adhesive layers comprises an adhesive sufficient to maintain the laminae together through the ANSI Z-26 test: 5.04 – Two Hour

Boiling Water.

19. (Previously presented) The glazing element of claim 9, wherein it passes the ANSI Z-26 test: 5.04 – Two Hour Boiling Water.
20. (Previously presented) The glazing element of claim 19, wherein it also passes at least one of the following ANSI Z-26 tests:
 - 5.13 – Thirty Foot Ball (9.14 m) Drop;
 - 5.17 – Resistance to Abrasion;
 - 5.19 – Chemical Resistance; and
 - 5.23 – Flammability.
21. (Previously presented) The glazing element of claim 19, wherein it also passes each of the following ANSI Z-26 tests:
 - 5.13 – Thirty Foot Ball (9.14 m) Drop;
 - 5.17 – Resistance to Abrasion;
 - 5.19 – Chemical Resistance; and
 - 5.23 – Flammability.
22. (Previously presented) The glazing element of claim 9, wherein it has a percent haze less than or equal to about 2.0%.
28. (Previously presented) The laminate attached to window glass of claim 1, wherein the laminate comprises an optically clear laminate.
29. (Previously presented) The glazing element of claim 9, wherein the glazing element comprises an optically clear glazing element.
31. (Previously presented) The laminate attached to window glass of claim 1, wherein said scratch-resistant layer comprises a scratch-resistant hard coating.

32. (Previously presented) The laminate attached to window glass of claim 1, wherein said pressure sensitive adhesive layers directly bond said laminae together.

33. (Previously presented) The glazing element of claim 9, wherein said pressure sensitive adhesive layers directly bond said laminae together.


35. (Previously presented) The glazing element of claim 9, wherein said attachable pressure sensitive adhesive comprises a cross linker solution.

38. (Previously presented) A laminate attached to window glass as set forth in claim 1, wherein said first lamina is comprised of optically clear flexible nonadhesive polymeric material, said at least one additional lamina is comprised of optically clear flexible nonadhesive polymeric material, said sufficient number of layers of in situ adhesive layers comprise optically clear pressure sensitive adhesive layers, and said layer of in situ ambient temperature attachable pressure sensitive adhesive comprises an optically clear ambient temperature attachable pressure sensitive adhesive.

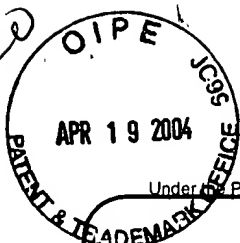
39. (Previously presented) A glazing element as set forth in claim 9, wherein said first lamina is comprised of optically clear flexible polymeric material, said at least one additional lamina is comprised of optically clear flexible polymeric material, said sufficient number of layers of in situ adhesive layers comprise optically clear pressure sensitive adhesive layers, and said layer of in situ ambient temperature attachable pressure sensitive adhesive comprises an optically clear ambient temperature attachable pressure sensitive adhesive.

Attorney Docket 55434US002
U.S.S.N. 09/591,584

Respectfully submitted,
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PTO/SB/21 (05-03)

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/591,584	
	Filing Date	06/09/2000	
	First Named Inventor	Peter T. Deitz	
	Art Unit	1771	
	Examiner Name	Hai Vo	
Total Number of Pages in This Submission	47	Attorney Docket Number	55434US002

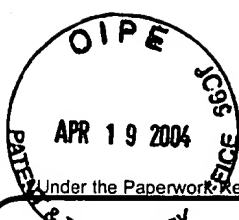
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Group
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	Return Receipt Postcard
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Robert L. Showalter, Reg. No. 33,579
Signature	<i>[Signature]</i>
Date	4/15/04

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 330

Complete if Known

Application Number	09/591,584
Filing Date	06/09/2000
First Named Inventor	Peter T. Dietz
Examiner Name	Hai Vo
Art Unit	1771
Attorney Docket No.	55434US002

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☐ Deposit Account:Deposit Account Number
Deposit Account Name

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)				(\$) 0	

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	= 0
Independent Claims	-3** =	X	= 0
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent
SUBTOTAL (2)				(\$) 0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 330**SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Robert L. Showalter	Registration No. (Attorney/Agent)	33,579	Telephone	937/438-6848
Signature		Date	4/10/04		

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This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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